

Claims 1-32 (cancelled)

33(new) A biochip reader for reading image data of a plurality of biological samples provided as spots or an array on a surface of said biochip; said reader comprising:

a light source for irradiating excitation light on said plurality of samples on said biochip surface, and for causing said sample to emit fluorescent light different in wavelength from said excitation light;

an optical detector for detecting fluorescent light emitted by said samples as spectroscopic information; and

means comprising a grating, or dichromatic mirror or Fourier spectrometer, for causing said fluorescent light emitted by said samples to be separated and developed as said spectroscopic information at different locations according to wavelength and to be detected by said optical detector at the different locations.

34.(new) The biochip reader of claim 33, wherein said spectroscopic information is developed in a two dimensional manner when said plurality of samples are arranged in spots on said biochip surface.

35.(new) The biochip reader of claim 33, wherein a microscope is selected from the group consisting of a scanning confocal microscope, a non-scanning confocal microscope, and a 2-photon excitation microscope.

36.(new) The biochip reader of claim 33, wherein said spectroscopic information is separated from noise.

37.(new) The biochip reader of claim 33, wherein the area of spectroscopy is restricted by an aperture aligned with position of each sample or part thereof.

38. (new) The biochip reader of claim 33, wherein said biochip comprises a transparent substrate, and wherein said excitation light is irradiated onto one side of said biochip which is opposite to a side surface wherein said plurality of samples are arranged.